What is Claimed is:

1. An interleave control device using a nonvolatile ferroelectric memory, comprising:

a single chip FeRAM array including a plurality of single banks;

a memory interleave controller configured to program a code for controlling a memory interleave, and to change an address path of the single chip FeRAM array depending on the programmed code; and

a bus configured to transfer data between the single chip FeRAM array and the memory interleave controller.

2. The device according to claim 1, wherein the memory interleave controller comprises:

a nonvolatile interleave program register configured to program a code for controlling the interleave using a nonvolatile ferroelectric memory; and

an interleave controller configured to output a control signal for changing an address path of the single chip FeRAM array depending on the programmed code by the nonvolatile interleave program register.

3. The device according to claim 2, wherein the

nonvolatile interleave program register comprises:

a program command processor configured to output a command signal for coding a program command in response to a write enable signal, a chip enable signal, an output enable signal and a reset signal;

a program register controller configured to logically operate the command signal, input data and a power-up detecting signal, and to output a write control signal and a cell plate signal; and

a program register array, including a nonvolatile ferroelectric memory device, configured to output a programmed code signal in response to the write control signal, the cell plate signal, a pull-up enable signal and a pull-down enable signal.

4. The device according to claim 3, wherein the nonvolatile interleave program register further comprises a reset circuit unit configured to output the reset signal into the program register controller in a power-up mode.

5. The device according to claim 3, wherein the program command processor comprises:

a logic unit configured to logically operate the write enable signal, the chip enable signal, the output

enable signal and the reset signal;

a flip-flop unit configured to sequentially flip-flop toggles of the output enable signal in response to an output signal from the logic unit, and to output the command signal; and

an over-toggle detector configured to detect over-toggles of the output enable signal.

6. The device according to claim 5, wherein the logic unit comprises:

a first NOR gate configured to perform a NOR operation on the write enable signal and the chip enable signal;

a first AND gate configured to perform an AND operation on an output signal from the first NOR gate and the output enable signal; and

a second AND gate configured to perform an AND operation on an output signal from the first NOR gate, an inverted reset signal and an output signal from the over-toggle detector.

7. The device according to claim 5, wherein the over-toggle detector comprises a third NAND gate configured to perform a NAND operation on the command signal and the

output enable signal.

8. The device according to claim 3, wherein the program register controller comprises:

a third AND gate configured to perform an AND operation on the command signal and the input data;

a first delay unit configured to non-invert and delay an output signal from the third AND gate;

a second NOR gate configured to perform a NOR operation on output signals from the third AND gate and from the first delay unit;

a second delay unit configured to delay an output signal from the second NOR gate, and to output the write control signal;

a third NOR gate configured to perform a NOR operation on an output signal from the second NOR gate and the power-up detecting signal; and

a third delay unit configured to invert and delay an output signal from the third NOR gate, and to output the cell plate signal.

9. The device according to claim 3, wherein the program register array comprises:

a pull-up driver configured to pull up a power

voltage when the pull-up enable signal is enabled;

a first driving unit configured to be cross-coupled to both ends of a program register, and to driver a voltage applied from the pull-up driver;

a write enable controller configured to output the reset signal and a set signal into both ends of the program register in response to the write control signal;

a ferroelectric capacitor configured to generate voltage difference between both ends of the program register in response to the cell plate signal;

a pull-down driver configured to pull down a ground voltage when the pull-down enable signal is enabled; and

a second driving unit configured to be cross-coupled to both ends of the program register, and to drive a voltage applied from the pull-down driver.

10. An interleave control device using a nonvolatile ferroelectric memory, comprising:

a multi-bank FeRAM array including a plurality of multi-banks;

a memory interleave controller configured to program a code for controlling a memory interleave, and to change an address path of the multi-bank FeRAM array depending on the programmed code; and

a bus configured to transfer data between the multi-bank FeRAM array and the memory interleave controller.

11. The device according to claim 10, wherein the plurality of multi-banks comprise:

a plurality of FeRAM banks controlled individually; and

a first bus configured to transfer an address/data/a control signal among the plurality of FeRAM banks.

12. The device according to claim 10, wherein the plurality of multi-banks further comprise a first memory interleave controller configured to control the interleave operation of the plurality of FeRAM banks via the first bus.

13. The device according to claim 10, wherein the memory interleave controller comprises:

a nonvolatile interleave program register configured to program a code for controlling the interleave using a nonvolatile ferroelectric memory; and

an interleave controller configured to output a control signal for changing an address path of the multi-bank FeRAM array depending on the programmed code by the nonvolatile interleave program register.

14. The device according to claim 13, wherein the nonvolatile interleave program register comprises:

a program command processor configured to output a command signal for coding a program command in response to a write enable signal, a chip enable signal, an output enable signal and a reset signal;

a program register controller configured to logically operate the command signal, input data and a power-up detecting signal, and to output a write control signal and a cell plate signal; and

a program register array, including a nonvolatile ferroelectric memory device, configured to output a programmed code signal in response to the write control signal, the cell plate signal, a pull-up enable signal and a pull-down enable signal.

15. The device according to claim 14, wherein the nonvolatile interleave program register further comprises a reset circuit unit configured to output the reset signal into the program register controller in a power-up mode.

16. The device according to claim 14, wherein the program command processor comprises:

a logic unit configured to logically operate the write enable signal, the chip enable signal, the output enable signal and the reset signal;

a flip-flop unit configured to sequentially flip-flop toggles of the output enable signal in response to an output signal from the logic unit, and to output the command signal; and

an over-toggle detector configured to detect over-toggles of the output enable signal.

17. The device according to claim 14, wherein the program register array comprises:

a pull-up driver configured to pull up a power voltage when the pull-up enable signal is enabled;

a first driving unit configured to be cross-coupled to both ends of a program register, and to drive a voltage applied from the pull-up driver;

a write enable controller configured to output the reset signal and a set signal into both ends of the program register in response to the write control signal;

a ferroelectric capacitor configured to generate voltage difference between both ends of the program register in response to the cell plate signal;

a pull-down driver configured to pull down a ground

voltage when the pull-down enable signal is enabled; and

a second driving unit configured to be cross-coupled to both ends of the program register, and to drive a voltage applied from the pull-down driver.

18. An interleave control device using a nonvolatile ferroelectric memory, comprising:

a multi-bank interleave FeRAM array including a plurality of multi-bank interleaves, each multi-bank interleave, including a nonvolatile ferroelectric memory, configured to program a code for controlling a memory interleave and to change an address path depending on the programmed code;

a memory controller configured to selectively control data/a control signal/an address of the multi-bank interleave FeRAM array in response to a memory control signal; and

a bus configured to transfer data between the multi-bank interleave FeRAM array and the memory controller.

19. The device according to claim 18, wherein the multi-bank interleave FeRAM array comprises:

a nonvolatile interleave program register configured to program a code for controlling the interleave using a

nonvolatile ferroelectric memory; and

an interleave controller configured to output a control signal for changing the address path depending on the programmed code by the nonvolatile interleave program register.

20. An interleave control device using a nonvolatile ferroelectric memory, comprising:

a nonvolatile interleave program register configured to program a code for controlling an interleave in response to inputted data/a control signal/an address; and

an interleave controller configured to output a control signal for changing an address path of a memory chip array including a plurality of banks depending on the programmed code by the nonvolatile interleave program register.